White Rodgers

# 50D50-843

Universal Proven Pilot Spark Control

**INSTALLATION INSTRUCTIONS**

**Operator: Save these instructions for future use!**

**FAILURE TO READ AND FOLLOW ALL INSTRUCTIONS CAREFULLY BEFORE INSTALLING OR OPERATING THIS CONTROL COULD CAUSE PERSONAL INJURY AND/OR PROPERTY DAMAGE.**

## DESCRIPTION

The 50D50-843 is a universal replacement Spark control designed for maximum compatibility with existing systems.




It features:

- **A card port and ten program keys to select the Safety Time, Retries, Prepurge and Recycle timings**.
- A Jumper to accommodate systems using Direct Sense (sensing through ignitor) or Indirect Sense (using a Flame Sensor)
- LED indicator for quick system and module diagnostics and troubleshooting.

## PRECAUTIONS

### ⚠ GENERAL PRECAUTION

**Application of this type of control may cause flame rollout on initial startup and could cause personal injury and/or property damage.**

**Check product specification and cross reference before replacing existing module. Do not use if existing module is not listed. Use of a program key other than listed can result in appliance malfunction.**

If in doubt about whether your wiring is millivolt, line, or low voltage, have it inspected by a qualified heating and air conditioning contractor or licensed electrician.

Do not exceed the specification ratings.

All wiring must conform to local and national electrical codes and ordinances.

This control is a precision instrument, and should be handled carefully. Rough handling or distorting components could cause the control to malfunction.

### CONTENTS



### ⚠ CAUTION

**To prevent electrical shock and/or equipment damage, disconnect electric power to system at main fuse or circuit breaker box until installation is complete.**

**Label all wires prior to disconnection when servicing controls. Wiring errors can cause improper and dangerous operation.**

**This control is not intended for use in locations where it may come in contact with water. Suitable protection must be provided to shield the control from exposure to water (dripping, spraying, rain, etc.).**

### ⚠ WARNING

**Do not use on circuits exceeding specified voltage. Higher voltage will damage control and could cause shock or fire hazard.**

**Do not short out terminals on gas valve or primary control to test. Short or incorrect wiring will damage thermostat and could cause personal injury and/or property damage.**




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**www.white-rodgers.com**

**PART NO. 37-6576E**
Replaces 37-6576D
0737

## SPECIFICATIONS

**ELECTRICAL RATINGS:**

**Input Voltage:** 18 to 30 VAC, 60 Hz

**Current:** 0.2 amp + MV + PV @ 25°C

**Relay Contact Ratings:**

Pilot Valve Relay: 1.5 amp @ 25 VAC 60 Hz
Main Valve Relay: 1.5 amp @ 25 VAC 60 Hz

**Spark Output:**

Gap: 0.1" - 0.2", 15kV 25Hz
Max cable length 3ft (0.9m)

**Flame Current Requirements:**

Minimum current to insure flame detection: 2 µA DC*
Maximum current for non-detection: 0.2 µA DC
Maximum allowable leakage resistance: 100 M ohms

* Measured with a DC microammeter in series with the flame probe lead

**OPERATING TEMPERATURE RANGE:**

-40° to 175°F (-40° to 80°C)

**HUMIDITY RANGE:**

To 95% relative humidity (non-condensing)

**MOUNTING:**

Surface mount or 4" x 4" junction box

**GASES APPROVED:** Natural, Manufactured, Mixed, Liquid Petroleum, and LP Gas Air Mixtures.

**Program Key Timing Specifications Quick Reference**

| Timing and Retry | | | | |
|---|---|---|---|---|
| **PROGRAM KEY (COLOR)** | **PRE-PURGE TIME** | **RESET TIME** | **RETRIES** | **SAFETY TIME** |
| A (blue) | 0 Sec. | 300 Sec. | Continuous | 90 Sec. |
| B (red) | 30 Sec. | 300 Sec. | Continuous | 90 Sec. |
| C (green) | 0 Sec. | 300 Sec. | Continuous | 30 Sec. |
| D (violet) | 30 Sec. | 300 Sec. | Continuous | 30 Sec. |
| E (orange) | 0 Sec. | 300 Sec. | 2 | 60 Sec. |
| F (yellow) | 30 Sec. | 300 Sec. | 2 | 60 Sec |
| G (blue\red) | 0 Sec. | 300 Sec. | Continuous | 15 Sec. |
| H (red\green) | 30 Sec. | N/A | N/A | Continuous |
| I (green\orange) | 0 Sec. | 300 Sec. | Continuous | 4 Sec. |
| J (violet\blue) | 30 Sec. | 300 Sec. | Continuous | 4 Sec. |

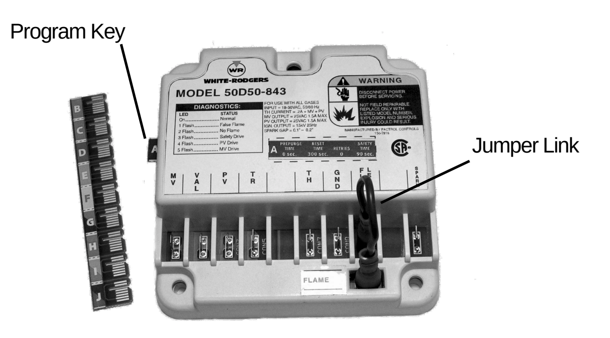



**Fig. 1 – Program Key installation/Jumper link for models with direct sense**

## INSTALLATION

### MOUNTING AND WIRING

**⚠ WARNING**

**Do not use on circuits exceeding specified voltage. Higher voltage will damage control and could cause shock or fire hazard.**

**⚠ CAUTION**

**To prevent electrical shock and/or equipment damage, disconnect electric power to system at main fuse or circuit breaker box until installation is complete. Failure to earth ground the appliance or reversing the neutral and hot wire connection to the line can cause shock hazard.**

**Shut off main gas to heating system until installation is complete.**

**Route and secure all wiring as far from flame as practical to prevent fire and/or equipment damage.**

**NOTE**

Replace control as unit – no user serviceable parts.

All wiring should be installed according to local and national electrical codes and ordinances.

The control may be mounted in any orientation on a convenient surface using two #6 x 5/8” sheet metal screws. If desired, control can be mounted on a 4” x 4” junction box using two #8-32 x 5/8” machine screws. The control must be secured to an area that will experience a minimum of vibration and remain below the maximum ambient temperature rating of 175°F. The control is approved for minimum ambient temperatures of –40°.

Refer to the wiring diagrams and wiring table when connecting the control to other components of the system.

UL approved 105°C rated 18 gauge minimum wire is recommended for all low voltage connections. UL approved 105°C rated 16 gauge minimum wire is recommended for all line voltage connections.

After installation or replacement, follow appliance manufacturer’s recommended installation/service instructions to insure proper operation.

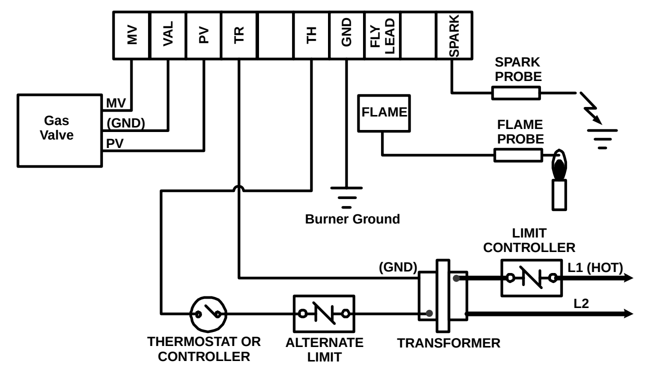



Fig. 2 – Typical hookup for White-Rodgers replacement with separate flame-sense and spark probes

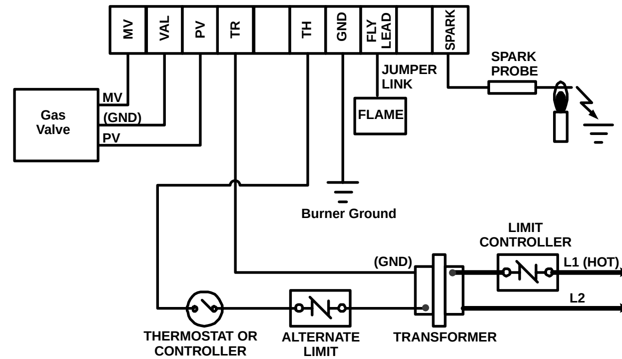



Fig. 3 – Typical hookup for White-Rodgers replacement with direct flame sense through single spark/sense probe

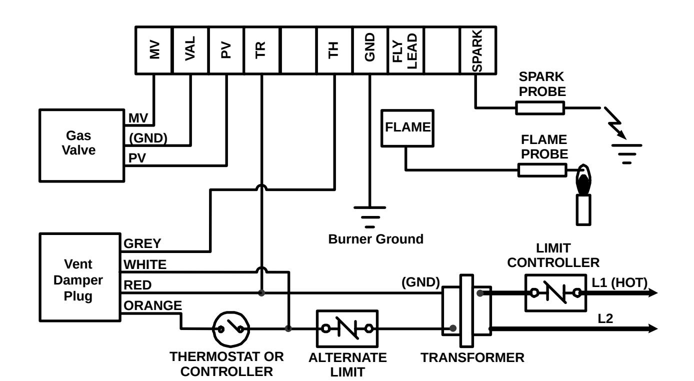



Fig. 4 – Typical hookup for White-Rodgers replacement with vent damper and separate flame-sense and spark probes

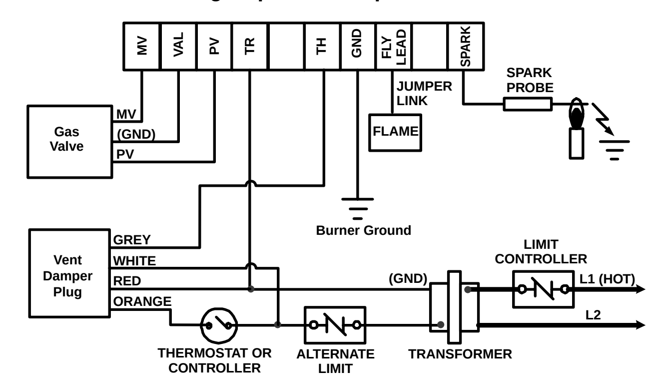



Fig. 5 – Typical hookup for White-Rodgers replacement with vent damper and direct flame sense through single spark/sense probe

**NOTE: Max length of spark cable should be less than 3ft (0.9m) and rated at 15kV. The cable must not run in continuous contact with any metal surface or spark voltage is greatly reduced. Use ceramic or plastic standoff insulators as required. Ensure burner is grounded directly to module for spark return path.**

## INSTALL PROGRAM KEY

The control replaces all listed models with the following features:

- proven pilot spark ignition
- three or more ignition tries
- pre-purge of 30 seconds or less
- remote rod flame sense or direct flame sense through ignitor
- four to ninety second safety time

Ten program keys are provided for different applications. Timings and Retries for each program key are shown in the Specifications section on page 2 of this installation manual. Choose the proper program key for the application. Install the selected program key in the slot on the left side of the module (see figure 1) and fit the timing label on the cover.

If the module you are replacing is not listed in the table contact the manufacturer of the appliance for a recommended replacement or retrofit.

After inserting the proper program key, dispose of the remaining keys to ensure the correct key remains in the module.
If control fails to operate see troubleshooting guide for remedy.

**TABLE 2. Cross Reference for Program Key and Wiring Instruction**

| MANUFACTURER | MODEL | KEY | WIRING | MANUFACTURER | MODEL | KEY | WIRING |
|---|---|---|---|---|---|---|---|
| Camstat | IPI-24-00 | A (blue) | Fig 2 | Honeywell | S86D1005 | A (blue) | Fig 3 |
| Fenwal | 05-203025-005 | A (blue) | Fig 3 | Honeywell | S86D1021 | A (blue) | Fig 3 |
| Fenwal | 05-203026-005 | A (blue) | Fig 3 | Honeywell | S86E1002 | A (blue) | Fig 3 / 5 |
| Honeywell | S86A1001 | A (blue) | Fig 3 | Honeywell | S86E1010 | A (blue) | Fig 3 / 5 |
| Honeywell | S86A1019 | A (blue) | Fig 3 | Honeywell | S86E1028 | A (blue) | Fig 3 / 5 |
| Honeywell | S86A1027 | A (blue) | Fig 3 | Honeywell | S86E1036 | A (blue) | Fig 3 / 5 |
| Honeywell | S86A1035 | A (blue) | Fig 3 | Honeywell | S86E1044 | A (blue) | Fig 3 / 5 |
| Honeywell | S86B1009 | A (blue) | Fig 3 | Honeywell | S86E1051 | A (blue) | Fig 3 / 5 |
| Honeywell | S86B1017 | A (blue) | Fig 3 | Honeywell | S86E1069 | A (blue) | Fig 3 / 5 |
| Honeywell | S86B1025 | A (blue) | Fig 3 | Honeywell | S86E1077 | A (blue) | Fig 3 / 5 |
| Honeywell | S86C1007 | A (blue) | Fig 3 | Honeywell | S86E1101 | A (blue) | Fig 3 / 5 |
| Honeywell | S86C1015 | A (blue) | Fig 3 | Honeywell | S86E1119 | A (blue) | Fig 3 / 5 |
| Honeywell | S86C1031 | A (blue) | Fig 3 | Honeywell | S86E1127 | A (blue) | Fig 3 / 5 |
| Honeywell | S86C1049 | A (blue) | Fig 3 | Honeywell | S86F1000 | A (blue) | Fig 3 / 5 |
| Honeywell | S86C1056 | A (blue) | Fig 3 | Honeywell | S86F1018 | A (blue) | Fig 3 / 5 |

**TABLE 2. (contd.) Cross Reference for Program Key and Wiring Instruction**

| MANUFACTURER | MODEL | KEY | WIRING |
|---|---|---|---|
| Honeywell | S86F1026 | A (blue) | Fig 3 / 5 |
| Honeywell | S86F1042 | A (blue) | Fig 3 / 5 |
| Honeywell | S86F1059 | A (blue) | Fig 3 / 5 |
| Honeywell | S86F1067 | A (blue) | Fig 3 / 5 |
| Honeywell | S86F1075 | A (blue) | Fig 3 / 5 |
| Honeywell | S86F1083 | A (blue) | Fig 3 / 5 |
| Honeywell | S86F1091 | A (blue) | Fig 3 / 5 |
| Honeywell | S86G1008 | A (blue) | Fig 3 / 5 |
| Honeywell | S86G1016 | A (blue) | Fig 3 / 5 |
| Honeywell | S86G1032 | A (blue) | Fig 3 / 5 |
| Honeywell | S86G1057 | A (blue) | Fig 3 / 5 |
| Honeywell | S86G1073 | A (blue) | Fig 3 / 5 |
| Honeywell | S86H1006 | A (blue) | Fig 3 / 5 |
| Honeywell | S86H1022 | A (blue) | Fig 3 / 5 |
| Honeywell | S86H1048 | A (blue) | Fig 3 / 5 |
| Honeywell | S86H1089 | A (blue) | Fig 3 / 5 |
| Honeywell | S86H1097 | A (blue) | Fig 3 / 5 |
| Honeywell | S86H1105 | A (blue) | Fig 3 / 5 |
| Honeywell | S86H1121 | A (blue) | Fig 3 / 5 |
| Honeywell | S86H1147 | A (blue) | Fig 3 / 5 |
| Honeywell | S90A1005 | A (blue) | Fig 2 / 4 |
| Honeywell | S90B1003 | A (blue) | Fig 2 / 4 |
| Honeywell | S90B1011 | A (blue) | Fig 2 / 4 |
| Honeywell | S8600A1001 | A (blue) | Fig 2 / 4 |
| Honeywell | S8600B1009 | A (blue) | Fig 2 / 4 |
| Honeywell | S8600C1015 | A (blue) | Fig 2 / 4 |
| Honeywell | S8600F1000 | A (blue) | Fig 3 / 5 |
| Honeywell | S8600F1034 | A (blue) | Fig 3 / 5 |
| Honeywell | S8600F1042 | A (blue) | Fig 3 / 5 |
| Honeywell | S8600H1006 | A (blue) | Fig 3 / 5 |
| Honeywell | S8600H1022 | A (blue) | Fig 3 / 5 |
| Honeywell | S8600H1048 | A (blue) | Fig 3 / 5 |
| Honeywell | S8600H1055 | A (blue) | Fig 3 / 5 |
| Honeywell | S8600H1089 | A (blue) | Fig 3 / 5 |
| Honeywell | S8600H1105 | A (blue) | Fig 3 / 5 |
| Honeywell | S8600M1005 | A (blue) | Fig 3 / 5 |
| Honeywell | S8600M1013 | A (blue) | Fig 3 / 5 |
| Honeywell | S8600A1009 | A (blue) | Fig 2 / 4 |
| Honeywell | S8610B1007 | A (blue) | Fig 2 / 4 |
| Honeywell | S8610B1015 | A (blue) | Fig 2 / 4 |
| Honeywell | S8610C1005 | A (blue) | Fig 2 / 4 |
| Honeywell | S8610F1008 | A (blue) | Fig 2 / 4 |
| Honeywell | S8610F1016 | A (blue) | Fig 3 / 5 |
| Honeywell | S8610F1024 | A (blue) | Fig 3 / 5 |
| Honeywell | S8610F1032 | A (blue) | Fig 3 / 5 |
| Honeywell | S8610H1012 | A (blue) | Fig 3 / 5 |
| Honeywell | S8610H1038 | A (blue) | Fig 3 / 5 |
| Honeywell | S8610H1046 | A (blue) | Fig 3 / 5 |
| Honeywell | S8610H1053 | A (blue) | Fig 3 / 5 |
| Honeywell | S8610H1079 | A (blue) | Fig 3 / 5 |
| Honeywell | S8610M1003 | A (blue) | Fig 3 / 5 |
| Honeywell | S8610M1029 | A (blue) | Fig 3 / 5 |
| Honeywell Generic | S8610u1003 | A (blue) | Fig 2/3/4/5 |
| Honeywell | S8620H1002 | A (blue) | Fig 3 / 5 |
| Honeywell | S8620H1028 | A (blue) | Fig 3 / 5 |
| HSC | 1003-3 | A (blue) | Fig 2 |
| HSC | 1003-300 | A (blue) | Fig 2 |
| Johnson Controls | CSA35A-617R | C (green) | Fig 2 |
| Johnson Controls | CSA35A-618R | C (green) | Fig 2 |
| Johnson Controls | CSA42A-600R | C (green) | Fig 2 |
| Johnson Controls | CSA42A-601R | C (green) | Fig 2 |
| Johnson Controls | CSA42A-602R | C (green) | Fig 2 |
| Johnson Controls | CSA42A-603R | C (green) | Fig 2 |
| Johnson Controls | CSA42A-604R | C (green) | Fig 2 |
| Johnson Controls | CSA43A-600R | C (green) | Fig 2 |
| Johnson Controls | CSA44A-600R | C (green) | Fig 2 / 4 |
| Johnson Controls | CSA45A-601R | C (green) | Fig 2 / 4 |
| Johnson Controls | CSA45A-602R | C (green) | Fig 2 / 4 |
| Johnson Controls | CSA46A-600R | C (green) | Fig 2 / 4 |

| MANUFACTURER | MODEL | KEY | WIRING |
|---|---|---|---|
| Johnson Controls | CSA46A-600R | C (green) | Fig 2 / 4 |
| Johnson Controls | CSA48A-600R | C (green) | Fig 2 / 4 |
| Johnson Controls | CSA49A-600R | C (green) | Fig 2 / 4 |
| Johnson Controls | CSA49A-605R | C (green) | Fig 2 / 4 |
| Johnson Controls | CSA51A-601R | C (green) | Fig 2 / 4 |
| Johnson Controls | CSA52A-600R | C (green) | Fig 2 / 4 |
| Johnson Controls | G60AAA-1 | C (green) | Fig 2 |
| Johnson Controls | G60AAG-1 | C (green) | Fig 2 |
| Johnson Controls | G60AAG-2 | C (green) | Fig 2 |
| Johnson Controls | G60AAG-3 | C (green) | Fig 2 |
| Johnson Controls | G60AAG-4 | C (green) | Fig 2 |
| Johnson Controls | G60AAG-5 | C (green) | Fig 2 |
| Johnson Controls | G60AAG-6 | C (green) | Fig 2 |
| Johnson Controls | G60AAG-7 | C (green) | Fig 2 |
| Johnson Controls | G60CAA-1 | C (green) | Fig 2 |
| Johnson Controls | G60CAA-3 | C (green) | Fig 2 |
| Johnson Controls | G60CAG-1 | C (green) | Fig 2 |
| Johnson Controls | G60CAG-2 | C (green) | Fig 2 |
| Johnson Controls | G60CAG-3 | C (green) | Fig 2 |
| Johnson Controls | G60CAG-4 | C (green) | Fig 2 |
| Johnson Controls | G60CAG-5 | C (green) | Fig 2 |
| Johnson Controls | G60CAG-6 | C (green) | Fig 2 |
| Johnson Controls | G60CAG-7 | C (green) | Fig 2 |
| Johnson Controls | G60CAG-8 | C (green) | Fig 2 |
| Johnson Controls | G60CAG-9 | C (green) | Fig 2 |
| Johnson Controls | G60CBA-1 | C (green) | Fig 2 |
| Johnson Controls | G60CBA-2 | C (green) | Fig 2 |
| Johnson Controls | G60CBA-3 | C (green) | Fig 2 |
| Johnson Controls | G60CBG-1 | C (green) | Fig 2 |
| Johnson Controls | G60CBG-2 | C (green) | Fig 2 |
| Johnson Controls | G60CBG-3 | C (green) | Fig 2 |
| Johnson Controls | G60CBG-4 | C (green) | Fig 2 |
| Johnson Controls | G60CBG-5 | C (green) | Fig 2 |
| Johnson Controls | G60CBG-6 | C (green) | Fig 2 |
| Johnson Controls | G60CBG-7 | C (green) | Fig 2 |
| Johnson Controls | G60CBG-8 | C (green) | Fig 2 |
| Johnson Controls | G60CBG-9 | C (green) | Fig 2 |
| Johnson Controls | G60CBG-10 | C (green) | Fig 2 |
| Johnson Controls | G60CBG-11 | C (green) | Fig 2 |
| Johnson Controls | G60CBG-12 | C (green) | Fig 2 |
| Johnson Controls | G60CBG-13 | C (green) | Fig 2 |
| Johnson Controls | G60CBG-14 | C (green) | Fig 2 |
| Johnson Controls | G60CBG-15 | C (green) | Fig 2 |
| Johnson Controls | G60CBG-16 | C (green) | Fig 2 |
| Johnson Controls | G60CBG-17 | C (green) | Fig 2 |
| Johnson Controls | G60CCA-1 | C (green) | Fig 2 |
| Johnson Controls | G60CCG-1 | C (green) | Fig 2 |
| Johnson Controls | G60CPG-1 | C (green) | Fig 2 |
| Johnson Controls | G60DBG-1 | C (green) | Fig 2 |
| Johnson Controls | G60DCG-1 | C (green) | Fig 2 |
| Johnson Controls | G60DCG-2 | C (green) | Fig 2 |
| Johnson Controls | G60DCG-3 | C (green) | Fig 2 |
| Johnson Controls | G60DCG-4 | C (green) | Fig 2 |
| Johnson Controls | G60PAG-1 | C (green) | Fig 2 |
| Johnson Controls | G60PAG-2 | C (green) | Fig 2 |
| Johnson Controls | G60PAG-3 | C (green) | Fig 2 |
| Johnson Controls | G60PAG-4 | C (green) | Fig 2 |
| Johnson Controls | G60PAG-5 | C (green) | Fig 2 |
| Johnson Controls | G60PAG-6 | C (green) | Fig 2 |
| Johnson Controls | G60PAJ-1 | C (green) | Fig 2 / 4 |
| Johnson Controls | G60PAK-1 | C (green) | Fig 2 / 4 |
| Johnson Controls | G60PAK-2 | C (green) | Fig 2 / 4 |
| Johnson Controls | G60PFH-1 | C (green) | Fig 2 |
| Johnson Controls | G60PFH-2 | C (green) | Fig 2 |
| Johnson Controls | G60PFL-1 | C (green) | Fig 2 / 4 |
| Johnson Controls | G60PFQ-1 | A (blue) | Fig 2 / 4 |
| Johnson Controls | G60PVL-1 | C (green) | Fig 2 / 4 |
| Johnson Controls | G60QAG-1 | C (green) | Fig 2 |
| Johnson Controls | G60QAG-2 | C (green) | Fig 2 |

TABLE 2. (cont.) Cross Reference for Program Key and Wiring Instruction

| MANUFACTURER | MODEL | KEY | WIRING | MANUFACTURER | MODEL | KEY | WIRING |
|---|---|---|---|---|---|---|---|
| Johnson Controls | G60QAG-3 | C (green) | Fig 2 | Johnson Controls | G65BBM-3 | C (green) | Fig 2 / 4 |
| Johnson Controls | G60QAG-4 | C (green) | Fig 2 | Johnson Controls | G65BBM-4 | C (green) | Fig 2 / 4 |
| Johnson Controls | G60QAK-1 | C (green) | Fig 2 / 4 | Johnson Controls | G65BCG-1 | C (green) | Fig 2 / 4 |
| Johnson Controls | G60QBG-1 | C (green) | Fig 2 | Johnson Controls | G65BCM-1 | C (green) | Fig 2 / 4 |
| Johnson Controls | G60QBG-2 | C (green) | Fig 2 | Johnson Controls | G65BFG-1 | C (green) | Fig 2 / 4 |
| Johnson Controls | G60QBG-3 | C (green) | Fig 2 | Johnson Controls | G65BFM | A (blue) | Fig 2 / 4 |
| Johnson Controls | G60QBG-4 | C (green) | Fig 2 | Johnson Controls | G65BKG-1 | C (green) | Fig 2 / 4 |
| Johnson Controls | G60QBG-5 | C (green) | Fig 2 | Johnson Controls | G65BKG-2 | C (green) | Fig 2 / 4 |
| Johnson Controls | G60QBG-6 | C (green) | Fig 2 | Johnson Controls | G65BKG-3 | C (green) | Fig 2 / 4 |
| Johnson Controls | G60QBG-7 | C (green) | Fig 2 | Johnson Controls | G65BKM-1 | C (green) | Fig 2 / 4 |
| Johnson Controls | G60QBG-8 | C (green) | Fig 2 | Johnson Controls | G65BKM-2 | C (green) | Fig 2 / 4 |
| Johnson Controls | G60QBG-9 | C (green) | Fig 2 | Johnson Controls | G65BKM-3 | C (green) | Fig 2 / 4 |
| Johnson Controls | G60QBH-1 | C (green) | Fig 2 | Johnson Controls | G65BLG-1 | C (green) | Fig 2 / 4 |
| Johnson Controls | G60QBK-1 | C (green) | Fig 2 / 4 | Johnson Controls | G65BLG-2 | C (green) | Fig 2 / 4 |
| Johnson Controls | G60QBK-2 | C (green) | Fig 2 / 4 | Johnson Controls | G65DBG | A (blue) | Fig 2 / 4 |
| Johnson Controls | G60QBK-3 | C (green) | Fig 2 / 4 | Johnson Controls | G65DBM-1 | C (green) | Fig 2 / 4 |
| Johnson Controls | G60QBL-1 | C (green) | Fig 2 / 4 | Johnson Controls | G65DBM-2 | C (green) | Fig 2 / 4 |
| Johnson Controls | G60QBL-2 | C (green) | Fig 2 | Johnson Controls | G65DBM-3 | C (green) | Fig 2 / 4 |
| Johnson Controls | G60QCG-1 | C (green) | Fig 2 / 4 | Johnson Controls | G65DCM-1 | C (green) | Fig 2 / 4 |
| Johnson Controls | G60QCJ-1 | C (green) | Fig 2 / 4 | Johnson Controls | G65DFG | A (blue) | Fig 2 / 4 |
| Johnson Controls | G60QCL-1 | C (green) | Fig 2 / 4 | Johnson Controls | G65DFM-1 | C (green) | Fig 2 / 4 |
| Johnson Controls | G60QDG-1 | C (green) | Fig 2 | Johnson Controls | G65DKG | A (blue) | Fig 2 / 4 |
| Johnson Controls | G60QFL-1 | C (green) | Fig 2 / 4 | Johnson Controls | G65DKM | A (blue) | Fig 2 / 4 |
| Johnson Controls | G60QGH-1 | C (green) | Fig 2 | Johnson Controls | G65DKM-1 | C (green) | Fig 2 / 4 |
| Johnson Controls | G60QHL-1 | C (green) | Fig 2 / 4 | Johnson Controls | G65DLM-1 | C (green) | Fig 2 / 4 |
| Johnson Controls | G60QHL-2 | C (green) | Fig 2 / 4 | Johnson Controls | G65FBG | A (blue) | Fig 2 / 4 |
| Johnson Controls | G60QJL-1 | C (green) | Fig 2 / 4 | Johnson Controls | G65FFG | A (blue) | Fig 2 / 4 |
| Johnson Controls | G60QLG-4 | C (green) | Fig 2 | Johnson Controls | G65FKG | A (blue) | Fig 2 / 4 |
| Johnson Controls | G60QLK-1 | C (green) | Fig 2 / 4 | Johnson Controls | G66AG-1 | C (green) | Fig 2 / 4 |
| Johnson Controls | G60QPL-1 | C (green) | Fig 2 / 4 | Johnson Controls | G66AG-2 | C (green) | Fig 2 / 4 |
| Johnson Controls | G60QRH-1 | C (green) | Fig 2 | Johnson Controls | G66BG-1 | C (green) | Fig 2 / 4 |
| Johnson Controls | G60QRH-2 | C (green) | Fig 2 | Johnson Controls | G66MG-1 | C (green) | Fig 2 / 4 |
| Johnson Controls | G60QRH-3 | C (green) | Fig 2 | Johnson Controls | G66MG-2 | C (green) | Fig 2 / 4 |
| Johnson Controls | G60QRL-1 | C (green) | Fig 2 / 4 | Johnson Controls | G66NG-1 | C (green) | Fig 2 / 4 |
| Johnson Controls | G60QRL-2 | C (green) | Fig 2 / 4 | Johnson Controls | G67AG-3 | C (green) | Fig 2 |
| Johnson Controls | G60QRL-3 | C (green) | Fig 2 / 4 | Johnson Controls | G67AG-4 | C (green) | Fig 2 |
| Johnson Controls | G60QSL-1 | C (green) | Fig 2 / 4 | Johnson Controls | G67AG-7 | C (green) | Fig 2 |
| Johnson Controls | G60QTH-1 | C (green) | Fig 2 | Johnson Controls | G67AG-8 | C (green) | Fig 2 |
| Johnson Controls | G60QTL-1 | C (green) | Fig 2 / 4 | Johnson Controls | G67AG-9 | C (green) | Fig 2 |
| Johnson Controls | G60RAG-1 | C (green) | Fig 2 | Johnson Controls | G67AG-10 | C (green) | Fig 2 |
| Johnson Controls | G60RAK-1 | A (blue) | Fig 2 / 4 | Johnson Controls | G67AG-11 | C (green) | Fig 2 |
| Johnson Controls | G60RBG-1 | C (green) | Fig 2 | Johnson Controls | G67BG-2 | C (green) | Fig 2 |
| Johnson Controls | G60RBG-2 | C (green) | Fig 2 | Johnson Controls | G67BG-3 | C (green) | Fig 2 |
| Johnson Controls | G60RBG-3 | C (green) | Fig 2 | Johnson Controls | G67BG-4 | C (green) | Fig 2 |
| Johnson Controls | G60RBK-1 | C (green) | Fig 2 / 4 | Johnson Controls | G67BG-5 | C (green) | Fig 2 |
| Johnson Controls | G60RBK-2 | C (green) | Fig 2 / 4 | Johnson Controls | G67MG-1 | C (green) | Fig 2 |
| Johnson Controls | G60RCG-1 | C (green) | Fig 2 | Johnson Controls | G67MG-2 | C (green) | Fig 2 |
| Johnson Controls | G60RCG-2 | C (green) | Fig 2 | Johnson Controls | G67MG-3 | C (green) | Fig 2 |
| Johnson Controls | G60RCJ-1 | C (green) | Fig 2 / 4 | Johnson Controls | G67MG-4 | A (blue) | Fig 2 / 4 |
| Johnson Controls | G60RDG-1 | C (green) | Fig 2 | Johnson Controls | G67NG-2 | C (green) | Fig 2 |
| Johnson Controls | G60RDK-1 | C (green) | Fig 2 / 4 | Johnson Controls | G67NG-4 | C (green) | Fig 2 |
| Johnson Controls | G60RGL-1 | C (green) | Fig 2 / 4 | Johnson Controls | G600AX-1 | C (green) | Fig 2 / 4 |
| Johnson Controls | G60RHL-1 | C (green) | Fig 2 / 4 | Johnson Controls | G600AX-2 | C (green) | Fig 2 / 4 |
| Johnson Controls | G60RHP-1 | C (green) | Fig 2 / 4 | Johnson Controls | G600AX-3 | C (green) | Fig 2 / 4 |
| Johnson Controls | G60RPL-1 | C (green) | Fig 2 / 4 | Johnson Controls | G600AY-1 | C (green) | Fig 2 |
| Johnson Controls | G60RSL-1 | C (green) | Fig 2 / 4 | Johnson Controls | G600LX-1 | C (green) | Fig 2 / 4 |
| Johnson Controls | G60TTL-1 | C (green) | Fig 2 / 4 | Johnson Controls | G600LX-2 | C (green) | Fig 2 / 4 |
| Johnson Controls | G60ZAG-1 | C (green) | Fig 2 | Johnson Controls | G600LY-1 | C (green) | Fig 2 |
| Johnson Controls | G60ZAG-2 | C (green) | Fig 2 | Johnson Controls | G600MX-1 | C (green) | Fig 2 / 4 |
| Johnson Controls | G65BBG-1 | C (green) | Fig 2 / 4 | Johnson Controls | G600NX-1 | C (green) | Fig 2 / 4 |
| Johnson Controls | G65BBG-2 | C (green) | Fig 2 / 4 | Johnson Controls | G600RX-1 | C (green) | Fig 2 / 4 |
| Johnson Controls | G65BBG-3 | C (green) | Fig 2 / 4 | Johnson Controls | G670AW-1 | C (green) | Fig 2 |
| Johnson Controls | G65BBG-4 | C (green) | Fig 2 / 4 | Johnson Controls | G670AW-2 | C (green) | Fig 2 |
| Johnson Controls | G65BBG-5 | C (green) | Fig 2 / 4 | Johnson Controls | G670GA-1 | C (green) | Fig 2 |
| Johnson Controls | G65BBG-6 | C (green) | Fig 2 / 4 | Johnson Controls | G770LGA-2 | C (green) | Fig 2 |
| Johnson Controls | G65BBG-7 | C (green) | Fig 2 / 4 | Johnson Controls | G770LGC-1 | C (green) | Fig 2 |
| Johnson Controls | G65BBG-8 | C (green) | Fig 2 / 4 | Johnson Controls | G770LGC-2 | C (green) | Fig 2 |
| Johnson Controls | G65BBM-1 | C (green) | Fig 2 / 4 | Johnson Controls | G770LGC-3 | C (green) | Fig 2 |
| Johnson Controls | G65BBM-2 | C (green) | Fig 2 / 4 | Johnson Controls | G770LGC-4 | C (green) | Fig 2 |

**TABLE 2. (cont.) Cross Reference for Program Key and Wiring Instruction**

| MANUFACTURER | MODEL | KEY | WIRING | MANUFACTURER | MODEL | KEY | WIRING |
|---|---|---|---|---|---|---|---|
| Johnson Controls | G770LHA-1 | C (green) | Fig 2 / 4 | Johnson Controls | Y79ABC-2 | C (green) | Fig 2 / 4 |
| Johnson Controls | G770LHA-2 | C (green) | Fig 2 / 4 | Johnson Controls | Y79ABC-3 | C (green) | Fig 2 / 4 |
| Johnson Controls | G770LHC-1 | C (green) | Fig 2 / 4 | Johnson Controls | Y79ABC-4 | C (green) | Fig 2 / 4 |
| Johnson Controls | G770MGA-1 | C (green) | Fig 2 | Johnson Controls | Y79ABC-5 | C (green) | Fig 2 / 4 |
| Johnson Controls | G770MGA-2 | C (green) | Fig 2 | Johnson Controls | Y79ABC-6 | C (green) | Fig 2 / 4 |
| Johnson Controls | G770MGA-3 | C (green) | Fig 2 | Johnson Controls | Y79ABC-7 | C (green) | Fig 2 / 4 |
| Johnson Controls | G770MGC-1 | C (green) | Fig 2 | Johnson Controls | Y79ABD-1 | C (green) | Fig 2 / 4 |
| Johnson Controls | G770MGC-2 | C (green) | Fig 2 | Johnson Controls | Y79ABCD-2 | C (green) | Fig 2 / 4 |
| Johnson Controls | G770MGC-3 | C (green) | Fig 2 | Johnson Controls | Y79BBA-1 | C (green) | Fig 2 / 4 |
| Johnson Controls | G770MGC-4 | C (green) | Fig 2 | Johnson Controls | Y79BBA-2 | C (green) | Fig 2 / 4 |
| Johnson Controls | G770MGC-5 | C (green) | Fig 2 | Johnson Controls | G779 | C (green) | Fig 2 / 4 |
| Johnson Controls | G770MGC-6 | C (green) | Fig 2 | Robertshaw | 780-001 | A (blue) | Fig 2 / 3 / 4 / 5 |
| Johnson Controls | G770MHA-1 | C (green) | Fig 2 / 4 | Robertshaw | 780-002 | A (blue) | Fig 2 / 3 / 4 / 5 |
| Johnson Controls | G770MHA-2 | C (green) | Fig 2 / 4 | Robertshaw | 780-003 | F (yellow) | Fig 2 / 3 / 4 / 5 |
| Johnson Controls | G770MHC-1 | C (green) | Fig 2 / 4 | Robertshaw | 780-845 | A (blue) | Fig 2 / 3 / 4 / 5 |
| Johnson Controls | G770NGA-1 | C (green) | Fig 2 | Robertshaw | 780-715 | A (blue) | Fig 2 |
| Johnson Controls | G770NGC-1 | C (green) | Fig 2 | Robertshaw | 780-735 | A (blue) | Fig 2 |
| Johnson Controls | G770NGC-5 | C (green) | Fig 2 | Robertshaw | 780-736 | A (blue) | Fig 2 |
| Johnson Controls | G770NGC-6 | C (green) | Fig 2 | Robertshaw | 780-737 | A (blue) | Fig 2 |
| Johnson Controls | G770NGC-7 | C (green) | Fig 2 | Robertshaw | SP715 | A (blue) | Fig 2 |
| Johnson Controls | G770NHA-1 | C (green) | Fig 2 | Robertshaw | SP715A | A (blue) | Fig 2 |
| Johnson Controls | G770NHC-1 | A (blue) | Fig 2 / 4 | Robertshaw | SP735 | A (blue) | Fig 2 |
| Johnson Controls | G770RGA-1 | C (green) | Fig 2 | Robertshaw | SP735D | A (blue) | Fig 2 |
| Johnson Controls | G770RHA-1 | C (green) | Fig 2 / 4 | Robertshaw | SP735L | A (blue) | Fig 2 |
| Johnson Controls | G770RHA-2 | C (green) | Fig 2 / 4 | Robertshaw | USI715U | A (blue) | Fig 2 / 3 / 4 / 5 |
| Johnson Controls | G775GA-1 | C (green) | Fig 2 | White-Rodgers | 50D49-350 | A (blue) | Fig 2 |
| Johnson Controls | G775RHA-1 | C (green) | Fig 2 / 4 | White-Rodgers | 50D49-360 | A (blue) | Fig 2 |
| Johnson Controls | G775RHA-2 | C (green) | Fig 2 / 4 | White-Rodgers | 50D49-361 | B (red) | Fig 2 |
| Johnson Controls | Y79ABC-1 | C (green) | Fig 2 / 4 | White-Rodgers | 50D49-401 | A (blue) | Fig 2 |

# OPERATION

## TYPICAL FURNACE INSTALLATION

In a typical application the 50D50-843 is designed to generate sparks and energize the gas valves and monitor the flame sensor. It is a 100% shut off design that locks out the gas valve if the burner does not light within the safety time. The ignition sequence begins with a call for heat from the room thermostat. The thermostat applies power to the control. After pre-purge interval, the pilot valve is energized and sparks are generated for the selected safety time. If the burner lights within the allowed period the pilot gas valve will remain open and the main valve will be energized until the call for heat is satisfied. If the burner does not light, the control will either continuously retry after the reset time or make two more ignition retries depending on the options selected. The control can be reset from lockout by cycling the thermostat to remove power for a minimum of 10 seconds. It includes a system analysis/troubleshooting LED that indicates normal operation, lockout, or control fault.

# TROUBLESHOOTING

For proper control operation, the control must be electrically connected to the gas valve and all the ignition wiring connectors plugged in. Gas valves with an electric "ON/OFF" switch must have the switch set to "ON".

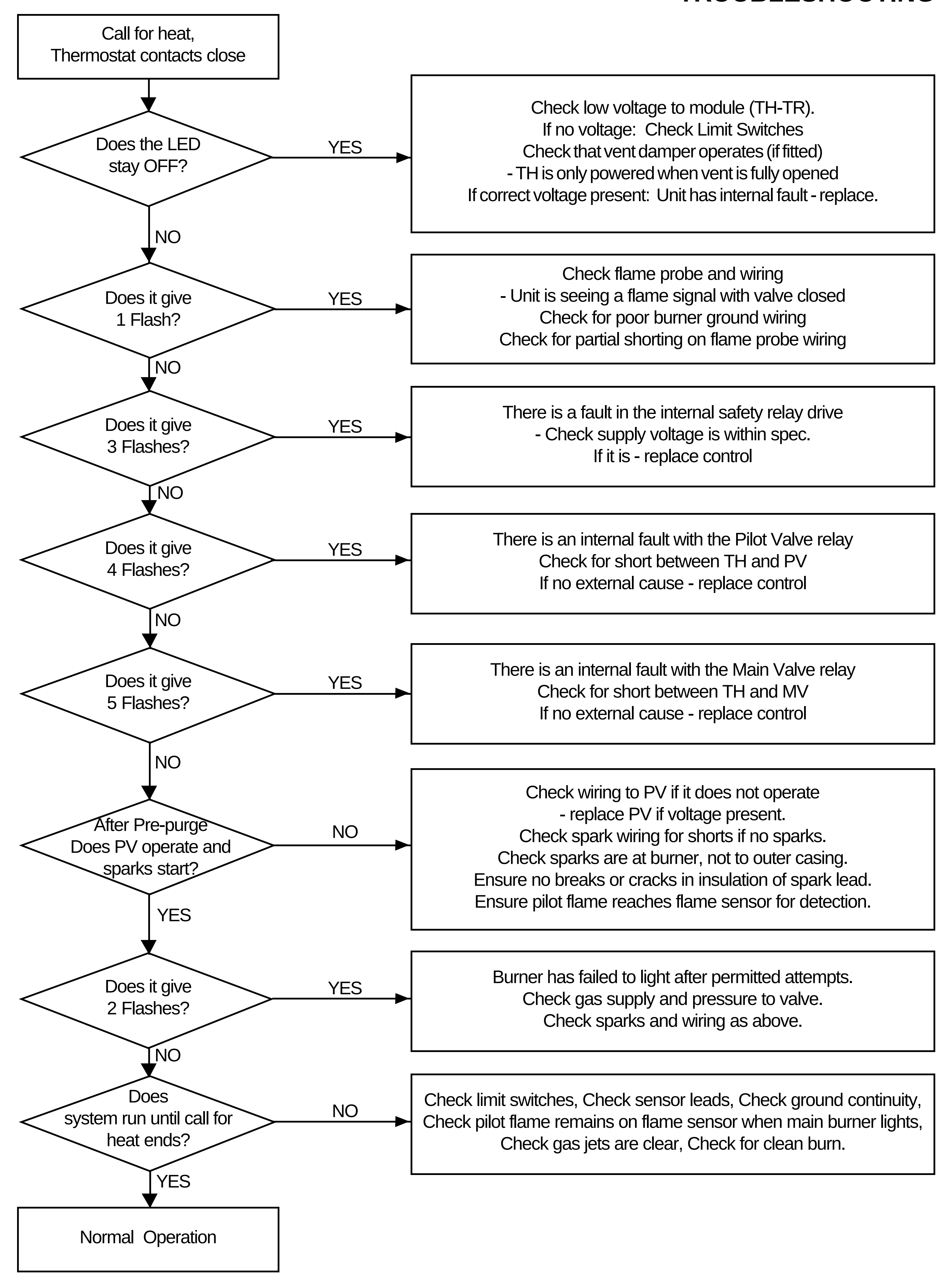
The light on the control provides a self-diagnosis indication. If the red light on the module is off continuously, the fault is likely to be internal to the module. To make sure, interrupt the line or 24 volt thermostat power for 10 seconds, check program key installation and then restore. If the internal fault is indicated again, and flame sensor is not shorted to ground, replace the control. A flashing light indicates the problem is most likely in the external components or wiring (see chart below). Proceed as follows:

Visual checks

1) After the purge delay (if applicable) the pilot valve opens and the ignition (sparks) starts
2) The pilot burner flame will light
3) The ignition (sparks) stops and the main valve opens
4) The main burner flame will ignite

Troubleshooting the system consists of checking for these visual indications. The chart on the next page defines the proper action if any of these indications does not occur.

| LED | Condition |
|---|---|
| Solid On | Normal - Control ON |
| One Flash | False flame signal |
| Two Flashes | No Flame Detected |
| Three Flashes | Safety Drive Fault |
| Four Flashes | PV Drive Fault |
| Five Flashes | MV Drive Fault |
| OFF | No Power / Internal Fault |


Call for heat,
Thermostat contacts close
Does the LED
stay OFF?
YES
Check low voltage to module (TH-TR).
If no voltage: Check Limit Switches
Check that vent damper operates (if fitted)
- TH is only powered when vent is fully opened
If correct voltage present: Unit has internal fault - replace.
NO
Does it give
1 Flash?
YES
Check flame probe and wiring
- Unit is seeing a flame signal with valve closed
Check for poor burner ground wiring
Check for partial shorting on flame probe wiring
NO
Does it give
3 Flashes?
YES
There is a fault in the internal safety relay drive
- Check supply voltage is within spec.
If it is - replace control
NO
Does it give
4 Flashes?
YES
There is an internal fault with the Pilot Valve relay
Check for short between TH and PV
If no external cause - replace control
NO
Does it give
5 Flashes?
YES
There is an internal fault with the Main Valve relay
Check for short between TH and MV
If no external cause - replace control
NO
After Pre-purge
Does PV operate and
sparks start?
NO
Check wiring to PV if it does not operate
- replace PV if voltage present.
Check spark wiring for shorts if no sparks.
Check sparks are at burner, not to outer casing.
Ensure no breaks or cracks in insulation of spark lead.
Ensure pilot flame reaches flame sensor for detection.
YES
Does it give
2 Flashes?
YES
Burner has failed to light after permitted attempts.
Check gas supply and pressure to valve.
Check sparks and wiring as above.
NO
Does
system run until call for
heat ends?
NO
Check limit switches, Check sensor leads, Check ground continuity,
Check pilot flame remains on flame sensor when main burner lights,
Check gas jets are clear, Check for clean burn.
YES
Normal Operation

**TECH SUPPORT HELP LINE: 1-888-725-9797**

**HOMEOWNER HELP LINE: 1-800-284-2925**






**St. Louis, Missouri** **Markham, Ontario**

www.white-rodgers.com



White Rodgers

# 50D50-843

Control de encendido por chispa directa universal

## INSTRUCCIONES DE INSTALACIÓN

**Sr. operador: ¡Conserve estas instrucciones para consultarlas en cualquier momento!**

**EL NO LEER Y SEGUIR CON CUIDADO TODAS LAS INSTRUCCIONES ANTES DE INSTALAR O UTILIZAR ESTE CONTROL PODRÍA CAUSAR LESIONES PERSONALES Y/O DAÑOS MATERIALES.**

## DESCRIPCIÓN

El 50D50-843 es un control de encendido por chispa directa universal de repuesto diseñado para ofrecer la máxima compatibilidad con los sistemas existentes.

Este control incluye:

- **Un puerto de tarjeta y diez teclas de programa para seleccionar el tiempo de prueba de encendido, reintentos, pre-purgado y reinicio de ciclo**.
- Un puente para adaptar el control a sistemas que utilizan detección directa (detección a través del dispositivo de encendido) o detección indirecta (usando un detector de llama).
- Indicador de LED para facilitar el diagnóstico y solución de problemas en el sistema y el módulo.




## PRECAUCIONES

### ⚠ ¡PRECAUCIÓN GENERAL!

**La aplicación de este tipo de control podría causar llamaradas al poner en marcha el equipo y producir lesiones personales y/o daños materiales.**

**Verifique las especificaciones del producto y las referencias cruzadas antes de cambiar el módulo existente. No lo utilice si el módulo existente no está incluido en la lista. El uso de una tecla de programa que no esté incluida en la lista puede producir el mal funcionamiento del equipo.**

Si tiene dudas acerca de si su conexión eléctrica es milivoltio, de línea o de bajo voltaje, hágala inspeccionar por un técnico especializado en equipos de calefacción y aire acondicionado o por un electricista autorizado.

No exceda los valores nominales especificados.

Todas las conexiones eléctricas deben cumplir con los códigos y reglamentaciones locales y nacionales.

Este control es un instrumento de precisión y debe manipularse con cuidado. La manipulación descuidada o la distorsión de los componentes podrían hacer que el control no funcionara correctamente.

### CONTENIDO



### ⚠ ¡PRECAUCIÓN!

**Para evitar descargas eléctricas y/o daños al equipo, desconecte la alimentación eléctrica en la caja de fusibles o disyuntores principal hasta que haya finalizado la instalación del sistema.**

**Identifique todos los cables antes de desconectarlos cuando realice tareas de mantenimiento en los controles. Los errores en las conexiones pueden dar lugar al funcionamiento incorrecto y peligroso del dispositivo.**

**Este control no está diseñado para ser utilizado en lugares en los que puede entrar en contacto con agua. Debe proporcionarse una protección adecuada para proteger el control de su exposición al agua (goteo, rociado, lluvia, etc.).**

### ⚠ ¡ADVERTENCIA!

**No utilizar en circuitos que excedan el voltaje especificado ya que los voltajes más altos dañarán el control y pueden causar riesgos de electrocución o incendio.**

**No cortocircuite las terminales de la válvula de gas ni del control principal para probarlos. Un cortocircuito o una conexión incorrecta dañará el termostato y podría causar lesiones personales y/o daños materiales.**




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www.white-rodgers.com

**N° DE PIEZA 37-6576E**
Reemplaza 37-6576D
0737

## ESPECIFICACIONES

**CARACTERÍSTICAS ELÉCTRICAS:**

**Voltaje de entrada:** 18 a 30 VCA, 60 Hz

**Corriente:** 0.2 amp + MV a 25ºC

**Características de contacto de los relés:**
Relé de válvula piloto: 1.5 amp a 25 VCA 60 Hz
Relé de válvula principal: 1.5 amp a 25 VCA 60 Hz

**Salida de encendido:**
Espacio: 0.1 pulg. - 0.2 pulg., 15 kV 25 Hz
Longitud de cable máxima: 3 pies (0.9 m)

**Requisitos de corriente de llama:**
Corriente mínima para asegurar la detección de la llama: 2 μA CC*
Corriente máxima para la no detección: 0.2 μA CC
Resistencia a fugas máxima permitida: 100 M ohmios

* Medida con un microamperímetro de CC en serie con el electrodo de sonda de llama

**RANGO DE TEMPERATURA OPERATIVA:**
-40° a 175°F (-40° a 80°C)

**RANGO DE HUMEDAD:**
Hasta 95% de humedad relativa (sin condensación)

**SOPORTE:**
Soporte de superficie o caja de conexiones de 4 pulg. x 4 pulg

**GASES APROBADOS:** natural, fabricado, mixto, gas licuado de petróleo (GLP) y mezclas de aire y GLP.

**Especificaciones de tiempos de las teclas de programa Referencia rápida**

| Tiempos y reintento | | | | |
|---|---|---|---|---|
| **TECLA DE PROGRAMA (COLOR)** | **TIEMPO DE PRE-PURGADO** | **TIEMPO DE REINICIO** | **RE-INTENTOS** | **TIEMPO DE SEGURIDAD** |
| A (azul) | 0 Seg. | 300 Seg. | Continuo | 90 Seg. |
| B (roja) | 30 Seg. | 300 Seg. | Continuo | 90 Seg. |
| C (verde) | 0 Seg. | 300 Seg. | Continuo | 30 Seg. |
| D (violeta) | 30 Seg. | 300 Seg. | Continuo | 30 Seg. |
| E (anaranjada) | 0 Seg. | 300 Seg. | 2 | 60 Seg. |
| F (amarilla) | 30 Seg. | 300 Seg. | 2 | 60 Sec |
| G (azul\rojo) | 0 Seg. | 300 Seg. | Continuo | 15 Seg. |
| H (rojo\verde) | 30 Seg. | N/A | N/A | Continuo |
| I (verde\anaranjado) | 0 Seg. | 300 Seg. | Continuo | 4 Seg. |
| J (violeta\azul) | 30 Seg. | 300 Seg. | Continuo | 4 Seg. |

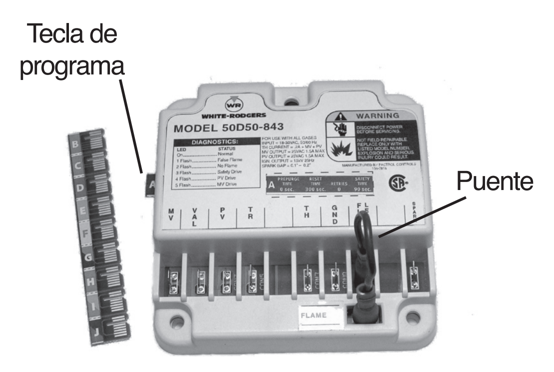



**Fig. 1 – Instalación de la tecla de programa / puente para modelos con detección directa**

## INSTALACIÓN

### MONTAJE Y CONEXIONES

**⚠ ¡ADVERTENCIA!**

**No utilizar en circuitos que excedan el voltaje especificado ya que los voltajes más altos dañarán el control y pueden causar riesgos de electrocución o incendio.**

**⚠ ¡PRECAUCIÓN!**

**Para evitar descargas eléctricas y/o daños al equipo, desconecte la alimentación eléctrica en la caja de fusibles o disyuntores principal hasta que haya finalizado la instalación del sistema. Si no se conecta a tierra el equipo o se invierte la conexión del cable neutro y el vivo a la línea pueden producirse riesgos de descarga eléctrica.**

**Cierre la alimentación de gas principal al sistema de calefacción hasta haber terminado la instalación.**

**Pase y fije todos los cables lo más lejos posible de la llama para evitar incendios y/o daños al equipo.**

**NOTA**

Cambie el control entero en caso de ser necesario.
No contiene piezas que puedan ser reparadas por el usuario.

Todas las conexiones eléctricas deben realizarse conforme a los códigos y reglamentaciones locales y nacionales.

El control puede montarse con cualquier orientación sobre una superficie conveniente usando dos tornillos autorroscantes calibre 6 x 5/8 pulg. Si lo desea, el control puede montarse sobre una caja de conexiones de 4 pulg. x 4 pulg. usando dos tornillos mecánicos calibre 8-32 x 5/8 pulg.
El control debe fijarse en un lugar que esté sujeto a un mínimo de vibraciones y que se mantenga por debajo de la temperatura ambiente nominal de 175°F. El control está aprobado para temperaturas ambientes mínimas de –40°.

Refiérase a los diagramas y a la tabla de conexiones para conectar el control a otros componentes del sistema.

Para todas las conexiones de bajo voltaje se recomienda utilizar cables calibre 18 como mínimo aptos para 105°C y aprobados por las normas UL. Para todas las conexiones de voltaje de línea se recomienda utilizar cables calibre 16 como mínimo aptos para 105°C y aprobados por las normas UL.

Una vez finalizada la instalación o el reemplazo, siga las instrucciones de instalación/mantenimiento recomendadas por el fabricante del equipo para asegurar su correcto funcionamiento.

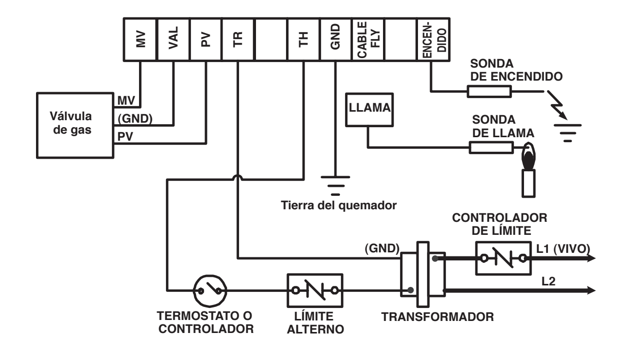



**Fig. 2 – Conexión típica para el repuesto de White-Rodgers con detección de llama separada y sondas de encendido**

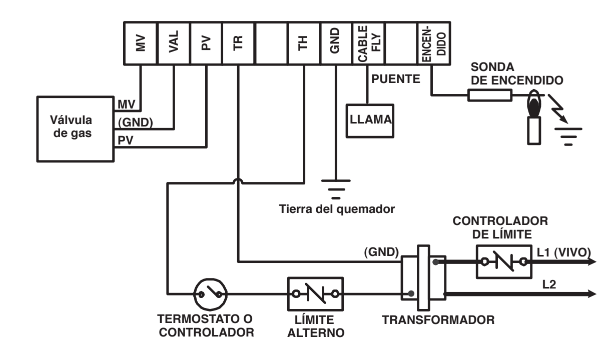



**Fig. 3 – Conexión típica para el repuesto de White-Rodgers con detección de llama directa a través de una sola sonda de encendido/detección**

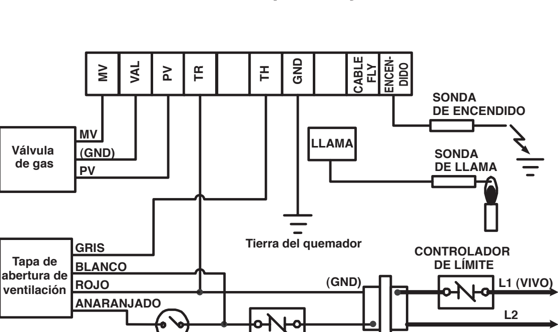



**Fig. 4 – Conexión típica para el repuesto de White-Rodgers con tapa de abertura de ventilación y sondas de detección de llama y encendido separadas**

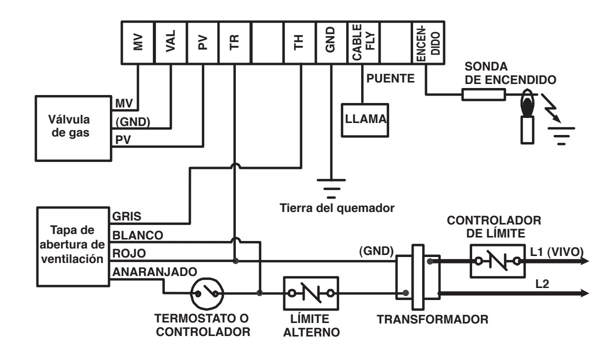



**Fig. 5 – Conexión típica para el repuesto de White-Rodgers con tapa de abertura de ventilación y detección de llama directa a través de una sola sonda de encendido/detección**

**NOTA: la longitud del cable de encendido debe ser de 3 pies (0.9 m) como máximo, con un voltaje nominal de 15 kV. El cable no debe estar en contacto permanente con ninguna superficie metálica ya que esto podría reducir considerablemente el voltaje de encendido. Utilice aisladores distanciadores de cerámica o plástico según sea necesario. Asegúrese de que el quemador esté conectado a tierra directamente al módulo para el circuito de retorno de encendido.**

## INSTALE LA TECLA DE PROGRAMA

El control reemplaza todos los modelos incluidos en la lista con las siguientes características:

- encendido por chispa piloto de eficacia comprobada
- tres o más intentos de encendido
- pre-purgado de 30 segundos o menos
- detección de llama con varilla remota o detección de llama directa a través del dispositivo de encendido
- tiempo de seguridad de cuatro a noventa segundos

Se suministran diez teclas de programa para diferentes aplicaciones. Los tiempos y el número de reintentos para cada tecla de programa se indican en la sección Especificaciones, en la página 2 de este manual de instalación. Elija la tecla de programa adecuada para la aplicación. Instale la tecla de programa seleccionada en la ranura del lado izquierdo del módulo (vea la figura 1) y coloque la etiqueta de tiempo sobre la cubierta.

Si el módulo que desea cambiar no está incluido en la tabla, póngase en contacto con el fabricante del equipo para consultar por un repuesto o reacondicionamiento recomendado.

Después de insertar la tecla de programa adecuada, deseche las teclas restantes para asegurarse de que quede la tecla correcta en el módulo. Si el control no funciona correctamente, vea cómo proceder en la guía de solución de problemas.

**TABLA 2. Referencia cruzada de teclas de programa e instrucciones de conexión**

| FABRICANTE | MODELO | TECLA | CONEXIÓN | FABRICANTE | MODELO | TECLA | CONEXIÓN |
|---|---|---|---|---|---|---|---|
| Camstat | IPI-24-00 | A (azul) | Fig 2 | Honeywell | S86D1005 | A (azul) | Fig 3 |
| Fenwal | 05-203025-005 | A (azul) | Fig 3 | Honeywell | S86D1021 | A (azul) | Fig 3 |
| Fenwal | 05-203026-005 | A (azul) | Fig 3 | Honeywell | S86E1002 | A (azul) | Fig 3 / 5 |
| Honeywell | S86A1001 | A (azul) | Fig 3 | Honeywell | S86E1010 | A (azul) | Fig 3 / 5 |
| Honeywell | S86A1019 | A (azul) | Fig 3 | Honeywell | S86E1028 | A (azul) | Fig 3 / 5 |
| Honeywell | S86A1027 | A (azul) | Fig 3 | Honeywell | S86E1036 | A (azul) | Fig 3 / 5 |
| Honeywell | S86A1035 | A (azul) | Fig 3 | Honeywell | S86E1044 | A (azul) | Fig 3 / 5 |
| Honeywell | S86B1009 | A (azul) | Fig 3 | Honeywell | S86E1051 | A (azul) | Fig 3 / 5 |
| Honeywell | S86B1017 | A (azul) | Fig 3 | Honeywell | S86E1069 | A (azul) | Fig 3 / 5 |
| Honeywell | S86B1025 | A (azul) | Fig 3 | Honeywell | S86E1077 | A (azul) | Fig 3 / 5 |
| Honeywell | S86C1007 | A (azul) | Fig 3 | Honeywell | S86E1101 | A (azul) | Fig 3 / 5 |
| Honeywell | S86C1015 | A (azul) | Fig 3 | Honeywell | S86E1119 | A (azul) | Fig 3 / 5 |
| Honeywell | S86C1031 | A (azul) | Fig 3 | Honeywell | S86E1127 | A (azul) | Fig 3 / 5 |
| Honeywell | S86C1049 | A (azul) | Fig 3 | Honeywell | S86F1000 | A (azul) | Fig 3 / 5 |
| Honeywell | S86C1056 | A (azul) | Fig 3 | Honeywell | S86F1018 | A (azul) | Fig 3 / 5 |

**TABLA 2 (continuación) Referencia cruzada de teclas de programa e instrucciones de conexión**

| FABRICANTE | MODELO | TECLA | CONEXION |
|---|---|---|---|
| Honeywell | S86F1026 | A (azul) | Fig 3 / 5 |
| Honeywell | S86F1042 | A (azul) | Fig 3 / 5 |
| Honeywell | S86F1059 | A (azul) | Fig 3 / 5 |
| Honeywell | S86F1067 | A (azul) | Fig 3 / 5 |
| Honeywell | S86F1075 | A (azul) | Fig 3 / 5 |
| Honeywell | S86F1083 | A (azul) | Fig 3 / 5 |
| Honeywell | S86F1091 | A (azul) | Fig 3 / 5 |
| Honeywell | S86G1008 | A (azul) | Fig 3 / 5 |
| Honeywell | S86G1016 | A (azul) | Fig 3 / 5 |
| Honeywell | S86G1032 | A (azul) | Fig 3 / 5 |
| Honeywell | S86G1057 | A (azul) | Fig 3 / 5 |
| Honeywell | S86G1073 | A (azul) | Fig 3 / 5 |
| Honeywell | S86H1006 | A (azul) | Fig 3 / 5 |
| Honeywell | S86H1022 | A (azul) | Fig 3 / 5 |
| Honeywell | S86H1048 | A (azul) | Fig 3 / 5 |
| Honeywell | S86H1089 | A (azul) | Fig 3 / 5 |
| Honeywell | S86H1097 | A (azul) | Fig 3 / 5 |
| Honeywell | S86H1105 | A (azul) | Fig 3 / 5 |
| Honeywell | S86H1121 | A (azul) | Fig 3 / 5 |
| Honeywell | S86H1147 | A (azul) | Fig 3 / 5 |
| Honeywell | S90A1005 | A (azul) | Fig 2 / 4 |
| Honeywell | S90B1003 | A (azul) | Fig 2 / 4 |
| Honeywell | S90B1011 | A (azul) | Fig 2 / 4 |
| Honeywell | S8600A1001 | A (azul) | Fig 2 / 4 |
| Honeywell | S8600B1009 | A (azul) | Fig 2 / 4 |
| Honeywell | S8600C1015 | A (azul) | Fig 2 / 4 |
| Honeywell | S8600F1000 | A (azul) | Fig 3 / 5 |
| Honeywell | S8600F1034 | A (azul) | Fig 3 / 5 |
| Honeywell | S8600F1042 | A (azul) | Fig 3 / 5 |
| Honeywell | S8600H1006 | A (azul) | Fig 3 / 5 |
| Honeywell | S8600H1022 | A (azul) | Fig 3 / 5 |
| Honeywell | S8600H1048 | A (azul) | Fig 3 / 5 |
| Honeywell | S8600H1055 | A (azul) | Fig 3 / 5 |
| Honeywell | S8600H1089 | A (azul) | Fig 3 / 5 |
| Honeywell | S8600H1105 | A (azul) | Fig 3 / 5 |
| Honeywell | S8600M1005 | A (azul) | Fig 3 / 5 |
| Honeywell | S8600M1013 | A (azul) | Fig 3 / 5 |
| Honeywell | S8600A1009 | A (azul) | Fig 2 / 4 |
| Honeywell | S8610B1007 | A (azul) | Fig 2 / 4 |
| Honeywell | S8610B1015 | A (azul) | Fig 2 / 4 |
| Honeywell | S8610C1005 | A (azul) | Fig 2 / 4 |
| Honeywell | S8610F1008 | A (azul) | Fig 2 / 4 |
| Honeywell | S8610F1016 | A (azul) | Fig 3 / 5 |
| Honeywell | S8610F1024 | A (azul) | Fig 3 / 5 |
| Honeywell | S8610F1032 | A (azul) | Fig 3 / 5 |
| Honeywell | S8610H1012 | A (azul) | Fig 3 / 5 |
| Honeywell | S8610H1038 | A (azul) | Fig 3 / 5 |
| Honeywell | S8610H1046 | A (azul) | Fig 3 / 5 |
| Honeywell | S8610H1053 | A (azul) | Fig 3 / 5 |
| Honeywell | S8610H1079 | A (azul) | Fig 3 / 5 |
| Honeywell | S8610M1003 | A (azul) | Fig 3 / 5 |
| Honeywell | S8610M1029 | A (azul) | Fig 3 / 5 |
| Honeywell Generic | S8610u1003 | A (azul) | Fig 2/3/4/5 |
| Honeywell | S8620H1002 | A (azul) | Fig 3 / 5 |
| Honeywell | S8620H1028 | A (azul) | Fig 3 / 5 |
| HSC | 1003-3 | A (azul) | Fig 2 |
| HSC | 1003-300 | A (azul) | Fig 2 |
| Johnson Controls | CSA35A-617R | C (verde) | Fig 2 |
| Johnson Controls | CSA35A-618R | C (verde) | Fig 2 |
| Johnson Controls | CSA42A-600R | C (verde) | Fig 2 |
| Johnson Controls | CSA42A-601R | C (verde) | Fig 2 |
| Johnson Controls | CSA42A-602R | C (verde) | Fig 2 |
| Johnson Controls | CSA42A-603R | C (verde) | Fig 2 |
| Johnson Controls | CSA42A-604R | C (verde) | Fig 2 |
| Johnson Controls | CSA43A-600R | C (verde) | Fig 2 |
| Johnson Controls | CSA44A-600R | C (verde) | Fig 2 / 4 |
| Johnson Controls | CSA45A-601R | C (verde) | Fig 2 / 4 |
| Johnson Controls | CSA45A-602R | C (verde) | Fig 2 / 4 |
| Johnson Controls | CSA46A-600R | C (verde) | Fig 2 / 4 |
| Johnson Controls | CSA46A-600R | C (verde) | Fig 2 / 4 |
| Johnson Controls | CSA48A-600R | C (verde) | Fig 2 / 4 |
| Johnson Controls | CSA49A-600R | C (verde) | Fig 2 / 4 |
| Johnson Controls | CSA49A-605R | C (verde) | Fig 2 / 4 |
| Johnson Controls | CSA51A-601R | C (verde) | Fig 2 / 4 |
| Johnson Controls | CSA52A-600R | C (verde) | Fig 2 / 4 |
| Johnson Controls | G60AAA-1 | C (verde) | Fig 2 |
| Johnson Controls | G60AAG-1 | C (verde) | Fig 2 |
| Johnson Controls | G60AAG-2 | C (verde) | Fig 2 |
| Johnson Controls | G60AAG-3 | C (verde) | Fig 2 |
| Johnson Controls | G60AAG-4 | C (verde) | Fig 2 |
| Johnson Controls | G60AAG-5 | C (verde) | Fig 2 |
| Johnson Controls | G60AAG-6 | C (verde) | Fig 2 |
| Johnson Controls | G60AAG-7 | C (verde) | Fig 2 |
| Johnson Controls | G60CAA-1 | C (verde) | Fig 2 |
| Johnson Controls | G60CAA-3 | C (verde) | Fig 2 |
| Johnson Controls | G60CAG-1 | C (verde) | Fig 2 |
| Johnson Controls | G60CAG-2 | C (verde) | Fig 2 |
| Johnson Controls | G60CAG-3 | C (verde) | Fig 2 |
| Johnson Controls | G60CAG-4 | C (verde) | Fig 2 |
| Johnson Controls | G60CAG-5 | C (verde) | Fig 2 |
| Johnson Controls | G60CAG-6 | C (verde) | Fig 2 |
| Johnson Controls | G60CAG-7 | C (verde) | Fig 2 |
| Johnson Controls | G60CAG-8 | C (verde) | Fig 2 |
| Johnson Controls | G60CAG-9 | C (verde) | Fig 2 |
| Johnson Controls | G60CBA-1 | C (verde) | Fig 2 |
| Johnson Controls | G60CBA-2 | C (verde) | Fig 2 |
| Johnson Controls | G60CBA-3 | C (verde) | Fig 2 |
| Johnson Controls | G60CBG-1 | C (verde) | Fig 2 |
| Johnson Controls | G60CBG-2 | C (verde) | Fig 2 |
| Johnson Controls | G60CBG-3 | C (verde) | Fig 2 |
| Johnson Controls | G60CBG-4 | C (verde) | Fig 2 |
| Johnson Controls | G60CBG-5 | C (verde) | Fig 2 |
| Johnson Controls | G60CBG-6 | C (verde) | Fig 2 |
| Johnson Controls | G60CBG-7 | C (verde) | Fig 2 |
| Johnson Controls | G60CBG-8 | C (verde) | Fig 2 |
| Johnson Controls | G60CBG-9 | C (verde) | Fig 2 |
| Johnson Controls | G60CBG-10 | C (verde) | Fig 2 |
| Johnson Controls | G60CBG-11 | C (verde) | Fig 2 |
| Johnson Controls | G60CBG-12 | C (verde) | Fig 2 |
| Johnson Controls | G60CBG-13 | C (verde) | Fig 2 |
| Johnson Controls | G60CBG-14 | C (verde) | Fig 2 |
| Johnson Controls | G60CBG-15 | C (verde) | Fig 2 |
| Johnson Controls | G60CBG-16 | C (verde) | Fig 2 |
| Johnson Controls | G60CBG-17 | C (verde) | Fig 2 |
| Johnson Controls | G60CCA-1 | C (verde) | Fig 2 |
| Johnson Controls | G60CCG-1 | C (verde) | Fig 2 |
| Johnson Controls | G60CPG-1 | C (verde) | Fig 2 |
| Johnson Controls | G60DBG-1 | C (verde) | Fig 2 |
| Johnson Controls | G60DCG-1 | C (verde) | Fig 2 |
| Johnson Controls | G60DCG-2 | C (verde) | Fig 2 |
| Johnson Controls | G60DCG-3 | C (verde) | Fig 2 |
| Johnson Controls | G60DCG-4 | C (verde) | Fig 2 |
| Johnson Controls | G60PAG-1 | C (verde) | Fig 2 |
| Johnson Controls | G60PAG-2 | C (verde) | Fig 2 |
| Johnson Controls | G60PAG-3 | C (verde) | Fig 2 |
| Johnson Controls | G60PAG-4 | C (verde) | Fig 2 |
| Johnson Controls | G60PAG-5 | C (verde) | Fig 2 |
| Johnson Controls | G60PAG-6 | C (verde) | Fig 2 |
| Johnson Controls | G60PAJ-1 | C (verde) | Fig 2 / 4 |
| Johnson Controls | G60PAK-1 | C (verde) | Fig 2 / 4 |
| Johnson Controls | G60PAK-2 | C (verde) | Fig 2 / 4 |
| Johnson Controls | G60PFH-1 | C (verde) | Fig 2 |
| Johnson Controls | G60PFH-2 | C (verde) | Fig 2 |
| Johnson Controls | G60PFL-1 | C (verde) | Fig 2 / 4 |
| Johnson Controls | G60PFQ-1 | A (azul) | Fig 2 / 4 |
| Johnson Controls | G60PVL-1 | C (verde) | Fig 2 / 4 |
| Johnson Controls | G60QAG-1 | C (verde) | Fig 2 |
| Johnson Controls | G60QAG-2 | C (verde) | Fig 2 |

**TABLA 2 (continuación) Referencia cruzada de teclas de programa e instrucciones de conexión**

| FABRICANTE | MODELO | TECLA | CONEXION |
|---|---|---|---|
| Johnson Controls | G60QAG-3 | C (verde) | Fig 2 |
| Johnson Controls | G60QAG-4 | C (verde) | Fig 2 |
| Johnson Controls | G60QAK-1 | C (verde) | Fig 2 / 4 |
| Johnson Controls | G60QBG-1 | C (verde) | Fig 2 |
| Johnson Controls | G60QBG-2 | C (verde) | Fig 2 |
| Johnson Controls | G60QBG-3 | C (verde) | Fig 2 |
| Johnson Controls | G60QBG-4 | C (verde) | Fig 2 |
| Johnson Controls | G60QBG-5 | C (verde) | Fig 2 |
| Johnson Controls | G60QBG-6 | C (verde) | Fig 2 |
| Johnson Controls | G60QBG-7 | C (verde) | Fig 2 |
| Johnson Controls | G60QBG-8 | C (verde) | Fig 2 |
| Johnson Controls | G60QBG-9 | C (verde) | Fig 2 |
| Johnson Controls | G60QBH-1 | C (verde) | Fig 2 |
| Johnson Controls | G60QBK-1 | C (verde) | Fig 2 / 4 |
| Johnson Controls | G60QBK-2 | C (verde) | Fig 2 / 4 |
| Johnson Controls | G60QBK-3 | C (verde) | Fig 2 / 4 |
| Johnson Controls | G60QBL-1 | C (verde) | Fig 2 / 4 |
| Johnson Controls | G60QBL-2 | C (verde) | Fig 2 |
| Johnson Controls | G60QCG-1 | C (verde) | Fig 2 / 4 |
| Johnson Controls | G60QCJ-1 | C (verde) | Fig 2 / 4 |
| Johnson Controls | G60QCL-1 | C (verde) | Fig 2 / 4 |
| Johnson Controls | G60QDG-1 | C (verde) | Fig 2 |
| Johnson Controls | G60QFL-1 | C (verde) | Fig 2 / 4 |
| Johnson Controls | G60QGH-1 | C (verde) | Fig 2 |
| Johnson Controls | G60QHL-1 | C (verde) | Fig 2 / 4 |
| Johnson Controls | G60QHL-2 | C (verde) | Fig 2 / 4 |
| Johnson Controls | G60QJL-1 | C (verde) | Fig 2 / 4 |
| Johnson Controls | G60QLG-4 | C (verde) | Fig 2 |
| Johnson Controls | G60QLK-1 | C (verde) | Fig 2 / 4 |
| Johnson Controls | G60QPL-1 | C (verde) | Fig 2 / 4 |
| Johnson Controls | G60QRH-1 | C (verde) | Fig 2 |
| Johnson Controls | G60QRH-2 | C (verde) | Fig 2 |
| Johnson Controls | G60QRH-3 | C (verde) | Fig 2 |
| Johnson Controls | G60QRL-1 | C (verde) | Fig 2 / 4 |
| Johnson Controls | G60QRL-2 | C (verde) | Fig 2 / 4 |
| Johnson Controls | G60QRL-3 | C (verde) | Fig 2 / 4 |
| Johnson Controls | G60QSL-1 | C (verde) | Fig 2 / 4 |
| Johnson Controls | G60QTH-1 | C (verde) | Fig 2 |
| Johnson Controls | G60QTL-1 | C (verde) | Fig 2 / 4 |
| Johnson Controls | G60RAG-1 | C (verde) | Fig 2 |
| Johnson Controls | G60RAK-1 | A (azul) | Fig 2 / 4 |
| Johnson Controls | G60RBG-1 | C (verde) | Fig 2 |
| Johnson Controls | G60RBG-2 | C (verde) | Fig 2 |
| Johnson Controls | G60RBG-3 | C (verde) | Fig 2 |
| Johnson Controls | G60RBK-1 | C (verde) | Fig 2 / 4 |
| Johnson Controls | G60RBK-2 | C (verde) | Fig 2 / 4 |
| Johnson Controls | G60RCG-1 | C (verde) | Fig 2 |
| Johnson Controls | G60RCG-2 | C (verde) | Fig 2 |
| Johnson Controls | G60RCJ-1 | C (verde) | Fig 2 / 4 |
| Johnson Controls | G60RDG-1 | C (verde) | Fig 2 |
| Johnson Controls | G60RDK-1 | C (verde) | Fig 2 / 4 |
| Johnson Controls | G60RGL-1 | C (verde) | Fig 2 / 4 |
| Johnson Controls | G60RHL-1 | C (verde) | Fig 2 / 4 |
| Johnson Controls | G60RHP-1 | C (verde) | Fig 2 / 4 |
| Johnson Controls | G60RPL-1 | C (verde) | Fig 2 / 4 |
| Johnson Controls | G60RSL-1 | C (verde) | Fig 2 / 4 |
| Johnson Controls | G60TTL-1 | C (verde) | Fig 2 / 4 |
| Johnson Controls | G60ZAG-1 | C (verde) | Fig 2 |
| Johnson Controls | G60ZAG-2 | C (verde) | Fig 2 |
| Johnson Controls | G65BBG-1 | C (verde) | Fig 2 / 4 |
| Johnson Controls | G65BBG-2 | C (verde) | Fig 2 / 4 |
| Johnson Controls | G65BBG-3 | C (verde) | Fig 2 / 4 |
| Johnson Controls | G65BBG-4 | C (verde) | Fig 2 / 4 |
| Johnson Controls | G65BBG-5 | C (verde) | Fig 2 / 4 |
| Johnson Controls | G65BBG-6 | C (verde) | Fig 2 / 4 |
| Johnson Controls | G65BBG-7 | C (verde) | Fig 2 / 4 |
| Johnson Controls | G65BBG-8 | C (verde) | Fig 2 / 4 |
| Johnson Controls | G65BBM-1 | C (verde) | Fig 2 / 4 |
| Johnson Controls | G65BBM-2 | C (verde) | Fig 2 / 4 |
| Johnson Controls | G65BBM-3 | C (verde) | Fig 2 / 4 |
| Johnson Controls | G65BBM-4 | C (verde) | Fig 2 / 4 |
| Johnson Controls | G65BCG-1 | C (verde) | Fig 2 / 4 |
| Johnson Controls | G65BCM-1 | C (verde) | Fig 2 / 4 |
| Johnson Controls | G65BFG-1 | C (verde) | Fig 2 / 4 |
| Johnson Controls | G65BFM | A (azul) | Fig 2 / 4 |
| Johnson Controls | G65BKG-1 | C (verde) | Fig 2 / 4 |
| Johnson Controls | G65BKG-2 | C (verde) | Fig 2 / 4 |
| Johnson Controls | G65BKG-3 | C (verde) | Fig 2 / 4 |
| Johnson Controls | G65BKM-1 | C (verde) | Fig 2 / 4 |
| Johnson Controls | G65BKM-2 | C (verde) | Fig 2 / 4 |
| Johnson Controls | G65BKM-3 | C (verde) | Fig 2 / 4 |
| Johnson Controls | G65BLG-1 | C (verde) | Fig 2 / 4 |
| Johnson Controls | G65BLG-2 | C (verde) | Fig 2 / 4 |
| Johnson Controls | G65DBG | A (azul) | Fig 2 / 4 |
| Johnson Controls | G65DBM-1 | C (verde) | Fig 2 / 4 |
| Johnson Controls | G65DBM-2 | C (verde) | Fig 2 / 4 |
| Johnson Controls | G65DBM-3 | C (verde) | Fig 2 / 4 |
| Johnson Controls | G65DCM-1 | C (verde) | Fig 2 / 4 |
| Johnson Controls | G65DFG | A (azul) | Fig 2 / 4 |
| Johnson Controls | G65DFM-1 | C (verde) | Fig 2 / 4 |
| Johnson Controls | G65DKG | A (azul) | Fig 2 / 4 |
| Johnson Controls | G65DKM | A (azul) | Fig 2 / 4 |
| Johnson Controls | G65DKM-1 | C (verde) | Fig 2 / 4 |
| Johnson Controls | G65DLM-1 | C (verde) | Fig 2 / 4 |
| Johnson Controls | G65FBG | A (azul) | Fig 2 / 4 |
| Johnson Controls | G65FFG | A (azul) | Fig 2 / 4 |
| Johnson Controls | G65FKG | A (azul) | Fig 2 / 4 |
| Johnson Controls | G66AG-1 | C (verde) | Fig 2 / 4 |
| Johnson Controls | G66AG-2 | C (verde) | Fig 2 / 4 |
| Johnson Controls | G66BG-1 | C (verde) | Fig 2 / 4 |
| Johnson Controls | G66MG-1 | C (verde) | Fig 2 / 4 |
| Johnson Controls | G66MG-2 | C (verde) | Fig 2 / 4 |
| Johnson Controls | G66NG-1 | C (verde) | Fig 2 / 4 |
| Johnson Controls | G67AG-3 | C (verde) | Fig 2 |
| Johnson Controls | G67AG-4 | C (verde) | Fig 2 |
| Johnson Controls | G67AG-7 | C (verde) | Fig 2 |
| Johnson Controls | G67AG-8 | C (verde) | Fig 2 |
| Johnson Controls | G67AG-9 | C (verde) | Fig 2 |
| Johnson Controls | G67AG-10 | C (verde) | Fig 2 |
| Johnson Controls | G67AG-11 | C (verde) | Fig 2 |
| Johnson Controls | G67BG-2 | C (verde) | Fig 2 |
| Johnson Controls | G67BG-3 | C (verde) | Fig 2 |
| Johnson Controls | G67BG-4 | C (verde) | Fig 2 |
| Johnson Controls | G67BG-5 | C (verde) | Fig 2 |
| Johnson Controls | G67MG-1 | C (verde) | Fig 2 |
| Johnson Controls | G67MG-2 | C (verde) | Fig 2 |
| Johnson Controls | G67MG-3 | C (verde) | Fig 2 |
| Johnson Controls | G67MG-4 | A (azul) | Fig 2 / 4 |
| Johnson Controls | G67NG-2 | C (verde) | Fig 2 |
| Johnson Controls | G67NG-4 | C (verde) | Fig 2 |
| Johnson Controls | G600AX-1 | C (verde) | Fig 2 / 4 |
| Johnson Controls | G600AX-2 | C (verde) | Fig 2 / 4 |
| Johnson Controls | G600AX-3 | C (verde) | Fig 2 / 4 |
| Johnson Controls | G600AY-1 | C (verde) | Fig 2 |
| Johnson Controls | G600LX-1 | C (verde) | Fig 2 / 4 |
| Johnson Controls | G600LX-2 | C (verde) | Fig 2 / 4 |
| Johnson Controls | G600LY-1 | C (verde) | Fig 2 |
| Johnson Controls | G600MX-1 | C (verde) | Fig 2 / 4 |
| Johnson Controls | G600NX-1 | C (verde) | Fig 2 / 4 |
| Johnson Controls | G600RX-1 | C (verde) | Fig 2 / 4 |
| Johnson Controls | G670AW-1 | C (verde) | Fig 2 |
| Johnson Controls | G670AW-2 | C (verde) | Fig 2 |
| Johnson Controls | G670GA-1 | C (verde) | Fig 2 |
| Johnson Controls | G770LGA-2 | C (verde) | Fig 2 |
| Johnson Controls | G770LGC-1 | C (verde) | Fig 2 |
| Johnson Controls | G770LGC-2 | C (verde) | Fig 2 |
| Johnson Controls | G770LGC-3 | C (verde) | Fig 2 |
| Johnson Controls | G770LGC-4 | C (verde) | Fig 2 |

**TABLA 2 (continuación) Referencia cruzada de teclas de programa e instrucciones de conexión**

| FABRICANTE | MODELO | TECLA | CONEXION | FABRICANTE | MODELO | TECLA | CONEXION |
|---|---|---|---|---|---|---|---|
| Johnson Controls | G770LHA-1 | C (verde) | Fig 2 / 4 | Johnson Controls | Y79ABC-2 | C (verde) | Fig 2 / 4 |
| Johnson Controls | G770LHA-2 | C (verde) | Fig 2 / 4 | Johnson Controls | Y79ABC-3 | C (verde) | Fig 2 / 4 |
| Johnson Controls | G770LHC-1 | C (verde) | Fig 2 / 4 | Johnson Controls | Y79ABC-4 | C (verde) | Fig 2 / 4 |
| Johnson Controls | G770MGA-1 | C (verde) | Fig 2 | Johnson Controls | Y79ABC-5 | C (verde) | Fig 2 / 4 |
| Johnson Controls | G770MGA-2 | C (verde) | Fig 2 | Johnson Controls | Y79ABC-6 | C (verde) | Fig 2 / 4 |
| Johnson Controls | G770MGA-3 | C (verde) | Fig 2 | Johnson Controls | Y79ABC-7 | C (verde) | Fig 2 / 4 |
| Johnson Controls | G770MGC-1 | C (verde) | Fig 2 | Johnson Controls | Y79ABD-1 | C (verde) | Fig 2 / 4 |
| Johnson Controls | G770MGC-2 | C (verde) | Fig 2 | Johnson Controls | Y79ABCD-2 | C (verde) | Fig 2 / 4 |
| Johnson Controls | G770MGC-3 | C (verde) | Fig 2 | Johnson Controls | Y79BBA-1 | C (verde) | Fig 2 / 4 |
| Johnson Controls | G770MGC-4 | C (verde) | Fig 2 | Johnson Controls | Y79BBA-2 | C (verde) | Fig 2 / 4 |
| Johnson Controls | G770MGC-5 | C (verde) | Fig 2 | Johnson Controls | G779 | C (verde) | Fig 2 / 4 |
| Johnson Controls | G770MGC-6 | C (verde) | Fig 2 | Robertshaw | 780-001 | A (azul) | Fig 2 / 3 / 4 / 5 |
| Johnson Controls | G770MHA-1 | C (verde) | Fig 2 / 4 | Robertshaw | 780-002 | A (azul) | Fig 2 / 3 / 4 / 5 |
| Johnson Controls | G770MHA-2 | C (verde) | Fig 2 / 4 | Robertshaw | 780-003 | F (amarillo) | Fig 2 / 3 / 4 / 5 |
| Johnson Controls | G770MHC-1 | C (verde) | Fig 2 / 4 | Robertshaw | 780-845 | A (azul) | Fig 2 / 3 / 4 / 5 |
| Johnson Controls | G770NGA-1 | C (verde) | Fig 2 | Robertshaw | 780-715 | A (azul) | Fig 2 |
| Johnson Controls | G770NGC-1 | C (verde) | Fig 2 | Robertshaw | 780-735 | A (azul) | Fig 2 |
| Johnson Controls | G770NGC-5 | C (verde) | Fig 2 | Robertshaw | 780-736 | A (azul) | Fig 2 |
| Johnson Controls | G770NGC-6 | C (verde) | Fig 2 | Robertshaw | 780-737 | A (azul) | Fig 2 |
| Johnson Controls | G770NGC-7 | C (verde) | Fig 2 | Robertshaw | SP715 | A (azul) | Fig 2 |
| Johnson Controls | G770NHA-1 | C (verde) | Fig 2 | Robertshaw | SP715A | A (azul) | Fig 2 |
| Johnson Controls | G770NHC-1 | A (azul) | Fig 2 / 4 | Robertshaw | SP735 | A (azul) | Fig 2 |
| Johnson Controls | G770RGA-1 | C (verde) | Fig 2 | Robertshaw | SP735D | A (azul) | Fig 2 |
| Johnson Controls | G770RHA-1 | C (verde) | Fig 2 / 4 | Robertshaw | SP735L | A (azul) | Fig 2 |
| Johnson Controls | G770RHA-2 | C (verde) | Fig 2 / 4 | Robertshaw | USI715U | A (azul) | Fig 2 / 3 / 4 / 5 |
| Johnson Controls | G775GA-1 | C (verde) | Fig 2 | White-Rodgers | 50D49-350 | A (azul) | Fig 2 |
| Johnson Controls | G775RHA-1 | C (verde) | Fig 2 / 4 | White-Rodgers | 50D49-360 | A (azul) | Fig 2 |
| Johnson Controls | G775RHA-2 | C (verde) | Fig 2 / 4 | White-Rodgers | 50D49-361 | B (red) | Fig 2 |
| Johnson Controls | Y79ABC-1 | C (verde) | Fig 2 / 4 | White-Rodgers | 50D49-401 | A (azul) | Fig 2 |

# FUNCIONAMIENTO

# INSTALACIÓN TÍPICA DE LA CALDERA

En una aplicación típica el 50D50-843 está diseñado para generar chispas y energizar las válvulas de gas y monitorear el detector de llama. Es un diseño con cierre 100% que bloquea la válvula de gas si el quemador no se enciende dentro del tiempo de seguridad. La secuencia de encendido comienza con una llamada de calor del termostato de la habitación. El termostato aplica alimentación al control. Después del intervalo de pre-purgado, la válvula del piloto se energiza y se generan chispas durante el tiempo de seguridad. Si el quemador se enciende dentro del período permitido, la válvula de gas del piloto permanecerá abierta hasta que se satisfaga la llamada de calor. Si el quemador no se enciende, el control continuará realizando intentos después del tiempo de reinicio o realizará dos intentos más de encendido según las opciones seleccionadas. El control puede desbloquearse encendiendo y apagando el termostato para desconectar la alimentación durante un mínimo de 10 segundos. Incluye un LED de análisis del sistema/solución de problemas que indica funcionamiento normal, bloqueo o falla del control.

# SOLUCIÓN DE PROBLEMAS

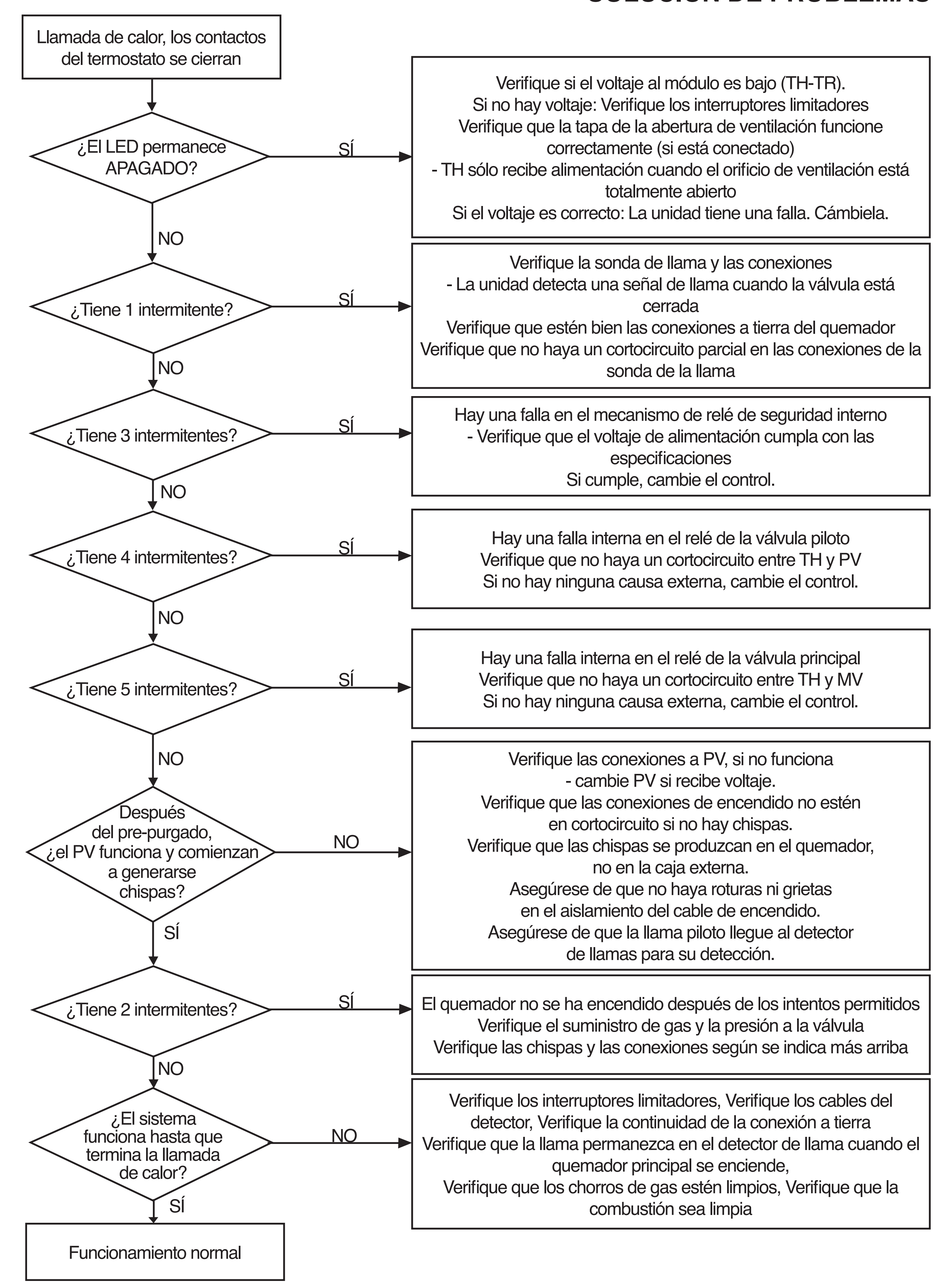
Para el funcionamiento adecuado del control, éste debe estar eléctricamente conectado a la válvula de gas y todos los conectores de los cables de encendido deben estar enchufados. Las válvulas de gas con un interruptor eléctrico de APAGADO/ENCENDIDO deben tener el interruptor colocado en la posición ENCENDIDO.

La luz del control proporciona una indicación de autodiagnóstico. Si la luz roja del módulo está permanentemente apagada, es probable que se trate de una falla interna del módulo. Para asegurarse, interrumpa la alimentación de línea o la alimentación de 24 voltios al termostato durante 10 segundos, compruebe la tecla del programa y luego vuelva a conectarla. Si vuelve a indicar una falla interna y el detector de llama no está en cortocircuito con tierra, cambie el control. Una luz intermitente indica que es muy probable que el problema se encuentre en los componentes externos o en las conexiones (vea el siguiente cuadro). Proceda como se indica a continuación:
Verificaciones visuales

1) Después del retardo de pre-purgado (si corresponde), la válvula piloto se abre y comienza el encendido (chispas)
2) La llama del quemador se enciende
3) Se detiene el encendido (chispas) y se abre la válvula principal
4) El quemador principal se enciende

La solución de problemas del sistema consiste en verificar estas indicaciones visuales. El cuadro de la siguiente página indica cómo proceder si no se produce ninguna de estas indicaciones.

| LED | Estado |
|---|---|
| Encendido fijo | Normal - Control ENCENDIDO |
| Un intermitente | Señal de llama falsa |
| Dos intermitentes | No se detectó llama |
| Tres intermitentes | Falla de mecanismo de seguridad |
| Cuatro intermitentes | N/A |
| Cinco intermitentes | Falla del mecanismo MV |
| APAGADO | No hay alimentación /Falla interna |


Llamada de calor, los contactos del termostato se cierran
¿El LED permanece APAGADO?
SÍ
Verifique si el voltaje al módulo es bajo (TH-TR).
Si no hay voltaje: Verifique los interruptores limitadores
Verifique que la tapa de la abertura de ventilación funcione correctamente (si está conectado)
- TH sólo recibe alimentación cuando el orificio de ventilación está totalmente abierto
Si el voltaje es correcto: La unidad tiene una falla. Cámbiela.
NO
¿Tiene 1 intermitente?
SÍ
Verifique la sonda de llama y las conexiones
- La unidad detecta una señal de llama cuando la válvula está cerrada
Verifique que estén bien las conexiones a tierra del quemador
Verifique que no haya un cortocircuito parcial en las conexiones de la sonda de la llama
NO
¿Tiene 3 intermitentes?
SÍ
Hay una falla en el mecanismo de relé de seguridad interno
- Verifique que el voltaje de alimentación cumpla con las especificaciones
Si cumple, cambie el control.
NO
¿Tiene 4 intermitentes?
SÍ
Hay una falla interna en el relé de la válvula piloto
Verifique que no haya un cortocircuito entre TH y PV
Si no hay ninguna causa externa, cambie el control.
NO
¿Tiene 5 intermitentes?
SÍ
Hay una falla interna en el relé de la válvula principal
Verifique que no haya un cortocircuito entre TH y MV
Si no hay ninguna causa externa, cambie el control.
NO
Después del pre-purgado, ¿el PV funciona y comienzan a generarse chispas?
NO
Verifique las conexiones a PV, si no funciona
- cambie PV si recibe voltaje.
Verifique que las conexiones de encendido no estén en cortocircuito si no hay chispas.
Verifique que las chispas se produzcan en el quemador, no en la caja externa.
Asegúrese de que no haya roturas ni grietas en el aislamiento del cable de encendido.
Asegúrese de que la llama piloto llegue al detector de llamas para su detección.
SÍ
¿Tiene 2 intermitentes?
SÍ
El quemador no se ha encendido después de los intentos permitidos
Verifique el suministro de gas y la presión a la válvula
Verifique las chispas y las conexiones según se indica más arriba
NO
¿El sistema funciona hasta que termina la llamada de calor?
NO
Verifique los interruptores limitadores, Verifique los cables del detector, Verifique la continuidad de la conexión a tierra
Verifique que la llama permanezca en el detector de llama cuando el quemador principal se enciende,
Verifique que los chorros de gas estén limpios, Verifique que la combustión sea limpia
SÍ
Funcionamiento normal









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